

Amendments to the Claims

Please cancel claims 15-36 without prejudice. Please add new claims 37-56 as shown below in the Listing of Claims.

Listing of Claims

15-36. (Cancelled)

37. (New) A process for the oxidation or reduction of an organic compound, comprising:
- forming a reaction mixture comprising a solvent, an organic compound, a cofactor, a cofactor-dependent enzyme and a second enzyme;
 - reducing or oxidizing said organic compound using said cofactor-dependent enzyme to produce a desired product;
 - regenerating said cofactor using said second enzyme;
 - recovering said desired product;
- wherein:
- step a) and step b) are carried out in a purely aqueous solvent system in the absence of added surfactant;
 - the initial concentration of said organic compound is at least 50 mM and said solvent system is in the form of an emulsion or suspension due to the concentration of said organic compound being higher than or equal to its solubility limit; and
 - said organic compound is an aldehyde, ketone or alcohol.
38. (New) The process of claim 37, wherein said organic compound is a aldehyde or ketone and, in step a), said aldehyde or ketone is reduced to form an alcohol.
39. (New) The process of claim 37, wherein said organic compound is an alcohol and, in step a), said alcohol is oxidized to form an aldehyde or ketone.
40. (New) The process of claim 37, wherein the initial concentration of said organic compound is between 100 and 1,000 mM.

41. (New) The process of claim 37, wherein said enzyme in step a) and said second enzyme in step b) are dehydrogenases.
42. (New) The process of claim 37, wherein said organic compound is a ketone.
43. (New) The process of claim 37, wherein said cofactor is NADH or NADPH.
44. (New) The process of claim 37, wherein said process is carried out at a temperature of between 10 and 80°C.
45. (New) The process of claim 37, wherein said process is carried out at a temperature of between 20 and 40°C.
46. (New) The process of claim 37, wherein regeneration of cofactor takes place by means of a formate dehydrogenase.
47. (New) The process of claim 37, wherein:
 - a) said organic compound is a aldehyde or ketone and, in step a), said aldehyde or ketone is reduced to form an alcohol;
 - b) said enzyme in step a) and said second enzyme in step b) are dehydrogenases; and
 - c) said cofactor is NADH or NADPH.
48. (New) The process of claim 47, wherein the reaction mixture is separated into an aqueous and an organic phase by the addition of an organic solvent and the desired product is isolated from the organic phase.
49. (New) The process of claim 47, wherein the initial organic compound concentration is between 100 and 500 mM.
50. (New) The process of claim 47, wherein said process is carried out at a temperature of between 10 and 80°C.

51. (New) The process of claim 47, wherein regeneration of cofactor takes place by means of a formate dehydrogenase.
52. (New) The process of claim 37, wherein:
 - a) said organic compound is an alcohol and, in step a), said alcohol is oxidized to form an aldehyde or ketone;
 - b) said enzyme in step a) and said second enzyme in step b) are dehydrogenases; and
 - c) said cofactor is NADH or NADPH.
53. (New) The process of claim 52, wherein the reaction mixture is separated into an aqueous and an organic phase by the addition of an organic solvent and the desired product is isolated from the organic phase.
54. (New) The process of claim 52, wherein the initial organic compound concentration is between 100 and 500 mM.
55. (New) The process of claim 52, wherein said process is carried out at a temperature of between 10 and 80°C.
56. (New) The process of claim 52, wherein regeneration of cofactor takes place by means of a formate dehydrogenase.